

# Advanced Horticulture

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|----------------------------------|---|
| Career Cluster                   | Agriculture, Food and Natural Resources   |
| Course Code                      |   |
| Prerequisite(s)                  | Recommended Intro to AFNR, Fundamental Plant Science AND/OR Fundamental Horticulture  |
| Credit                           | .5 or 1   |
| Graduation Requirement           | N   |
| Program of Study and Sequence    | Fundamental Horticulture – <b>Advanced Horticulture</b> – Ag Biotechnology  |
| Student Organization             | National FFA Organization   |
| Coordinating Work-Based Learning | Job shadowing, mentoring, internships, entrepreneurship, service learning, workplace tours, apprenticeship, school-based enterprises, Supervised Agricultural Experience (SAE)                |
| Industry Certifications          | OSHA 10 Hour Safety Certification (General Industry), National Career Readiness Certificate (NCRC), Private Pesticide Applicator Certification, Commercial Pesticide Applicator Certification |
| Dual Credit or Dual Enrollment   |   |
| Teacher Certification            | Agriculture Education   |
| Resources                        |   |

## Course Description:

Advanced Horticulture is designed for instructors to customize the curriculum to local industry needs. Standards can be met by utilizing one or more of the following horticulture sectors: Landscape Design, Floriculture and/or Greenhouse Management. Topics include identification, use and management of equipment and materials, as well as managing plant growth and maintaining plants and equipment. Employment skills are an additional emphasis. All three of these industry sectors require skilled, educated employees. Classroom and laboratory content will be enhanced by utilizing appropriate equipment and technology. Mathematics, (geometry), science (physical science, biology, Chemistry), English and human relations skills will be reinforced in the course. Opportunities for application of clinical and leadership skills are provided by participation in FFA through activities, conference and skills competitions. Each student will be expected to maintain a Supervised Agricultural Experience (SAE) program.

## Program of Study Application

Advanced Horticulture is a second pathway course in the Agriculture, Food and Natural Resources Program of Study, Plant Systems pathway. Advanced Horticulture is preceded by a Fundamental Horticulture and would be followed by Ag Biotechnology.

**Course Standards****ADVH 1 Identify plants, equipment and materials utilized in the horticulture industry.**

| <i>Webb Level</i>    | <i>Sub-indicator</i>  | <i>Integrated Content</i>  |
|----------------------|---|--|
| Two<br>Skill/Concept | ADVH 1.1 Identify and categorize plants by their purpose.               | <ul style="list-style-type: none"><li>• floral plants</li><li>• landscape plants</li><li>• house plants</li><li>• bedding plants</li></ul>                   |
| One<br>Recall        | ADVH 1.2 Identify tools and equipment used in horticultural industries. | <ul style="list-style-type: none"><li>• Floral tools</li><li>• Landscaping tools and equipment</li><li>• Greenhouse systems, benches, lights, etc.</li></ul> |
| One<br>Recall        | ADVH 1.3 Identify supplies and materials used in horticulture.          | <ul style="list-style-type: none"><li>• Floriculture materials &amp; containers</li><li>• Hardscapes</li><li>• Growing media, containers</li></ul>           |

**Notes**

**ADVH 2 Develop and implement a crop management plan.**

| <i>Webb Level</i>              | <i>Sub-indicator</i>   | <i>Integrated Content</i>   |
|--------------------------------|--|---|
| Four<br>Extended<br>Thinking   | ADVH 2.1 Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems. | <ul style="list-style-type: none"> <li>• Identify and summarize functions of different plant parts</li> </ul>   |
| Three<br>Strategic<br>Thinking | ADVH 2.2 Determine the influence of environmental factors on plants.   | <ul style="list-style-type: none"> <li>• Light</li> <li>• Air temperature</li> <li>• Water</li> </ul>   |
| Three<br>Strategic<br>Thinking | ADVH 2.3 Develop and implement a plan for meeting plant nutrient needs.  | <ul style="list-style-type: none"> <li>• Growing media</li> <li>• Fertilization</li> </ul>  |
| Four<br>Extended<br>Thinking   | ADVH 2.4 Apply plant management practices.   | <ul style="list-style-type: none"> <li>• Trimming/pruning</li> <li>• IPM</li> <li>• Demonstrate care and handling of cut flowers</li> </ul>   |
| Two<br>Skill/Concept           | ADVH 2.5 Explain principles of specialized growing techniques.   | <ul style="list-style-type: none"> <li>• hydroponics</li> <li>• aquaponics</li> <li>• sustainable methods</li> <li>• Genetically Modified Organisms (GMO)</li> <li>• Biotechnology</li> <li>• types of propagation</li> </ul> |

**Notes**

**ADVH 3 Apply principles of design in plant systems to enhance an environment.**

| <i>Webb Level</i>              | <i>Sub-indicator</i>   | <i>Integrated Content</i>  |
|--------------------------------|--|--|
| Three<br>Strategic<br>Thinking | ADVH 3.1 Select plants based on quality and function.                            | <ul style="list-style-type: none"><li>• Summarize the installation and maintenance of turf grass</li></ul>   |
| Four<br>Extended<br>Thinking   | ADVH 3.2 Create designs using plants.  | <ul style="list-style-type: none"><li>• Floral arrangements</li><li>• Landscape designs</li></ul>  |
| Four<br>Extended<br>Thinking   | ADVH 3.3 Demonstrate proper use of plants in their environment                   | <ul style="list-style-type: none"><li>• focal and filler plants in floriculture</li><li>• heat tolerant and shade plants in landscape design</li></ul> |
| Two<br>Skill/Concept           | ADVH 3.4 Evaluate a design and provide feedback and suggestions for improvement. | <ul style="list-style-type: none"><li>• Evaluate a floral arrangement</li><li>• Evaluate a landscape or landscape plan</li></ul>                       |

**Notes**

Career Cluster: AFNR

Course: Advanced Horticulture

**ADVH 4 Develop employability skills related to the Plant Systems Pathway.**

| <i>Webb Level</i> | <i>Sub-indicator</i>                                   | <i>Integrated Content</i> |
|-------------------|--|---------------------------|
| Two<br>Develop    | ADVH 4.1 Develop soft skills to enhance employability. |                           |

**Notes**